

POPULAR EDITION.

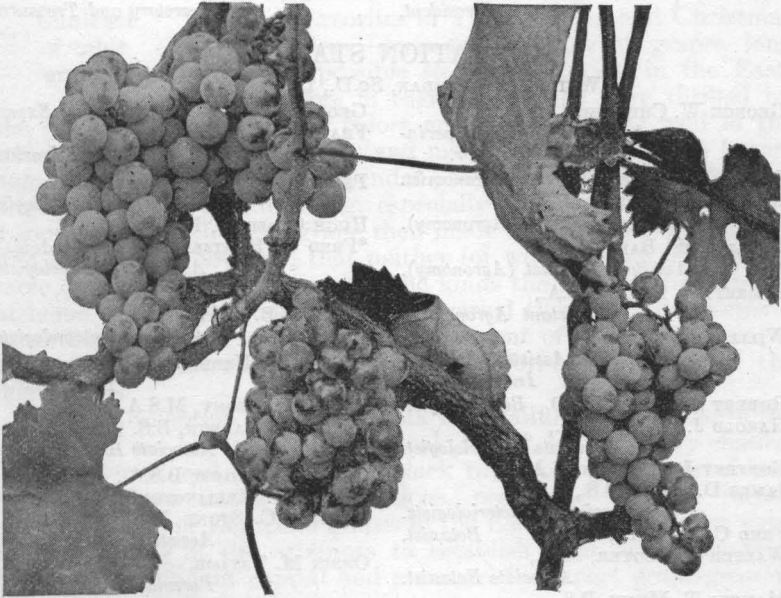
BULLETIN No. 432.

APRIL, 1917.

---

# New York Agricultural Experiment Station.

GENEVA, N. Y.



EUROPEAN GRAPES SUCCEED IN NEW YORK.

---

SUMMARIZED BY  
F. H. HALL  
FROM BULLETIN BY  
R. D. ANTHONY.

---

PUBLISHED BY THE DEPARTMENT OF AGRICULTURE.

## BOARD OF CONTROL.

GOVERNOR CHARLES S. WHITMAN, Albany.  
 COMMISSIONER CHARLES S. WILSON, Albany.  
 THOMAS NEWBOLD, Poughkeepsie.  
 WILLIAM H. MANNING, Saratoga Springs.  
 PARKER CORNING, Albany.  
 FRANK M. BRADLEY, Bakers.  
 CHARLES C. SACKETT, Canandaigua.  
 ALFRED G. LEWIS, Geneva.  
 JOHN B. MULFORD, Lodi.

## OFFICERS OF THE BOARD.

COMMISSIONER CHARLES S. WILSON,      WILLIAM O'HANLON,  
*President.*      *Secretary and Treasurer.*

## STATION STAFF.

WHITMAN H. JORDAN, Sc.D., LL.D., *Director.*

<p>GEORGE W. CHURCHILL,  <i>Agriculturist and Superintendent of Labor.</i></p> <p>JOSEPH F. BARKER, M.S., <i>Agronomist.</i></p> <p>REGINALD C. COLLISON, M.S.,  <i>Associate Chemist (Agronomy).</i></p> <p>WILLIAM W. BAER, B.S.,  <i>Assistant Chemist (Agronomy).</i></p> <p>EVERETT P. REED, B.S.A.,  <i>Assistant Agronomist.</i></p> <p>WILLIAM P. WHEELER,  <i>First Assistant (Animal Industry).</i></p> <p>ROBERT S. BREED, Ph.D., <i>Bacteriologist.</i></p> <p>HAROLD J. CONN, Ph.D.,  <i>Associate Bacteriologist.</i></p> <p>GODFREY L. A. RUEHLE, M.S.,  <i>Assistant Bacteriologists.</i></p> <p>JAMES D. BREW, B.S.,  <i>Botanist.</i></p> <p>FRED C. STEWART, M.S.,  <i>Associate Botanist.</i></p> <p>WALTER O. GLOYER, M.A.,  <i>Assistant Botanist.</i></p> <p>MANCEL T. MUNN, B.S.,  <i>Chemist.</i></p> <p>LUCIUS L. VAN SLYKE, Ph.D.,  <i>Associate Chemists.</i></p> <p>RUDOLPH J. ANDERSON, B.S.,  <i>Associate Chemists.</i></p> <p>ARTHUR W. CLARK, B.S.,  <i>Associate Chemists.</i></p> <p>JOHN C. BAKER, Ph.D.,  <i>Associate Chemists.</i></p> <p>MORGAN P. SWEENEY, A.M.,  <i>Associate Chemists.</i></p> <p>OTTO MCCREARY, B.S.,  <i>Associate Chemists.</i></p> <p>RICHARD F. KEELER, A.B.,  <i>Associate Chemists.</i></p> <p>WILLIAM F. WALSH, B.S.,  <i>Associate Chemists.</i></p> <p>ARTHUR J. FLUME, B.S.,  <i>Associate Chemists.</i></p>	<p>GEORGE A. SMITH, <i>Dairy Expert.</i></p> <p>FRANK H. HALL, B.S.,  <i>Vice-Director; Editor and Librarian.</i></p> <p>PERCIVAL J. PARROTT, M.A.,  <i>Entomologist.</i></p> <p>HUGH GLASGOW, Ph.D.,  <i>Associate Entomologists.</i></p> <p>*FRED Z. HARTZELL, M.A. (Fredonia),  <i>Associate Entomologists.</i></p> <p>HAROLD E. HODGKISS, B.S.,  <i>Assistant Entomologists.</i></p> <p>BENTLEY B. FULTON, B.A.,  <i>Assistant Entomologists.</i></p> <p>ULYSSES P. HEDRICK, Sc.D.,  <i>Horticulturist.</i></p> <p>ROY D. ANTHONY, M.S.A.,  <i>Associate Horticulturists.</i></p> <p>*FRED E. GLADWIN, B.S. (Fredonia),  <i>Associate Horticulturists.</i></p> <p>GEORGE H. HOWE, B.S.A.,  <i>Assistant Horticulturists.</i></p> <p>JOSEPH W. WELLINGTON, B.S.,  <i>Assistant Horticulturists.</i></p> <p>WILLIAM C. STONE, M.S.,  <i>Assistant Horticulturists.</i></p> <p>ORRIN M. TAYLOR,  <i>Foreman in Horticulture.</i></p> <p>F. ATWOOD SIRRINE, M.S. (Riverhead),  <i>Special Agent.</i></p> <p>JESSIE A. SPERRY, <i>Director's Secretary.</i></p> <p>FRANK E. NEWTON,  <i>Clerks and Stenographers.</i></p> <p>WILLARD F. PATCHIN,  <i>Clerks and Stenographers.</i></p> <p>LENA G. CURTIS,  <i>Clerks and Stenographers.</i></p> <p>AGNES E. RYAN,  <i>Clerks and Stenographers.</i></p> <p>MAE M. MELVIN,  <i>Clerks and Stenographers.</i></p> <p>MAUDE L. HOGAN,  <i>Clerks and Stenographers.</i></p> <p>ELIZABETH JONES,  <i>Computer and Mailing Clerk.</i></p>
---	---

Address all correspondence, not to individual members of the staff, but to the  
 NEW YORK AGRICULTURAL EXPERIMENT STATION, GENEVA, N. Y.

The Bulletins published by the Station will be sent free to any farmer applying  
 for them.

\* Connected with Grape Culture Investigations.

POPULAR EDITION \*

OF

BULLETIN No. 432.

## EUROPEAN GRAPES SUCCEED IN NEW YORK.

F. H. HALL.

**Choicest  
of table  
grapes.**

The translucent, white Malagas and the bright Tokays — favorites of Thanksgiving and Christmas dinner tables — represent a class of grapes long believed impossible to grow outdoors in the East. Early settlers in eastern America were thrilled by the sight of grapes of many colors and types growing wild in the woods in surprising abundance; and many of them spoke, in letters home and in reports, of the splendid prospect these fruits offered of limitless feasting and drinking, especially the latter; for it was as a source of wine that the grape then made its strongest appeal. It was soon found, however, that neither for wine-making nor for the table did the native grapes equal the kinds the pioneers had known at home — the numerous and widely varied types of *Vitis vinifera*. Accordingly, almost from the first settlement of America, attempts were made to introduce into the New World the grapes of the home-lands.

Without exception, these attempts were failures. The plants the winters did not kill the phylloxera took, and if, by any lucky chance, fruit was produced, mildew and black rot made it a mass of corruption. These untoward conditions, pests and diseases ruined every vineyard of European grapes in the East, sooner or later, even though several of the attempts to establish such vineyards were backed by abundant capital and managed by expert grape-growers from France or Switzerland.

So, for three-quarters of a century, now, it has been thought out of the question to grow European grapes — wine or raisin grapes — in the open east of the Rocky Mountains; though they have long been a main standby of California's horticulture. We of the East, unless privileged to share the product of some hothouse-grown vine, have been able to enjoy these delicious fruits only after they have made long journeys across the Atlantic or across our Continent.

In one way this has been fortunate; for the inability to introduce the Old World grapes has led to a wonderful development of the

\* This is a brief review of Bulletin No. 432 of this Station, by R. D. Anthony, entitled *Vinifera Grapes in New York*. Those specially interested in the detailed account of the investigations will be furnished, on request, with a copy of the above-mentioned bulletin. The names of those who so request will be placed on the Station mailing list to receive future bulletins as issued, either popular or complete edition as desired.

native species, until we have hundreds of attractive and delicious grapes, equalling if not excelling the European grapes in some respects, and introducing some qualities all their own.

Yet the best varieties of *Vitis vinifera* have a sweetness and a richness of flavor which appeal strongly to most tastes, an absence of the "foxiness" that adapts them to making the choicest of wines and champagnes, and a meatiness and solidity that keeps them edible long after the season of native grapes and that makes it easy to turn them into raisins.

These qualities have so appealed to those who could afford the expense that many European grapes have been grown in forcing houses in order that the owners might enjoy these grapes in their perfection. Grape breeders have availed themselves of the presence of these hot-house vines to cross the European varieties on the native kinds; and many of our best table grapes owe much of their fine flavor to the strain of *Vitis vinifera* blood introduced thru plants that would have failed in the open.

**Failure  
now  
preventable.** Recent progress in grape culture proves that the old failures with European grapes were due to causes quite easily controlled; and we know, now, that many varieties of *Vitis vinifera* — though not all, by any means — may be grown and ripened successfully in New York State. It is improbable that we can ever grow Malagas and Tokays to perfection in the open; for these are varieties requiring a very long, warm season; but dozens of other varieties, many equalling these familiar ones in beauty, flavor, and size of bunch and berry, are promising candidates for trial in New York, particularly in those sections where the late-season native varieties do well.

Winter-killing, perhaps the most common cause of failure in the past, can be easily prevented by covering the vines with a few inches of earth, a simple, rapid and inexpensive operation, with vines properly pruned for the purpose. Phylloxera — the root-sucking plant-lice that have been so destructive to European grapes in California and in Europe — do little harm to roots of certain American species of the vine, and *Vinifera* cions unite finely with stocks of these native species. Mildew and black-rot are no longer dreaded by the vineyardist who knows the merits of bordeaux mixture and similar fungicides.

**European  
grapes  
do well  
at Geneva.** As proof that these measures are successful in the growth of European grapes in the East the Station can cite long and extensive experience. A few vines of pure *Vitis vinifera* varieties have been growing on our grounds for nearly fifteen years, and ninety varieties for more than five years. During the life of the last collection of vines the weather conditions have at times been among the most severe ever known, both cold of winter and



heat of summer, excessive rainfall and long, severe droughts having tested the endurance of the vines to the limit. A few have succumbed, but the great majority have come thru in as good shape as would a similar assortment of native varieties. From these last vines, grafted in the spring of 1911 upon stocks of native seedlings in place in the vineyard, some grapes were harvested in 1912, and since that time they have, as a whole, yielded as well or better than most of our native grapes. Neither soil nor climatic conditions at the Station are favorable for grapes of any kind, as Catawba ripens with us but rarely; yet some of these *Vitis vinifera* vines have matured heavy yields of splendid grapes, admired of all who have been privileged to taste or see them; while other kinds have shown less beautiful fruits but quantities of berries that give much juice of unexcelled quality for the making of either unfermented or fermented drinks.

**Necessary  
points in  
culture.**

The principal difficulty at present in introducing these new sorts to New York viticulture is the difficulty of obtaining the plants. Few eastern nurserymen catalog varieties of *Vitis vinifera*, and the supply in California of varieties that will succeed in New York and are rooted on native phylloxera-resistant stocks is small. This makes it almost essential to graft stock at home, which can be easily done provided cions are obtainable, by one who understands bench grafting; but the simplest and best plan is probably to graft new *Vinifera* tops on native stocks in place. These may be set six by six, since the *Vinifera* vine requires less room than native varieties. The ordinary cleft graft succeeds well on the grape, though it may be necessary to saw, rather than to split, the cleft if the grain of the vine twists. The top of the native vine should be so cut off that the cleft will be at the surface of the ground. By another method, native and *Vinifera* plants are set side by side in the vineyard, grown a year on their own roots, then united by cutting away portions of each vine and binding together the exposed surfaces until they unite. The following spring the *Vinifera* top is severed from its roots and the native top pruned away. The Station has succeeded satisfactorily in uniting *Vinifera* cions to *Riparia* stocks set in the nursery row by whip-grafting two weeks after the rooted cuttings were placed.

As winter protection is necessary provision must be made for replacing the old trunk, when it becomes too stiff to bend down easily, by a new one. A replacing spur, continued by one cane each year, should be left near the ground level, on the main trunk. This main trunk is carried only to the lower wire of the trellis. At the winter pruning, two one-year canes are selected, to be tied along this wire, one on each side, and two renewal spurs are left as close to the top of the main trunk as possible. The young shoots which spring from the one-year canes, instead of trailing to the ground

or running out along the trellis wires, grow erect. Advantage is taken of this in the pruning system adopted at the Station. The canes and renewal spurs as described above are tied along the lower wire, then the young shoots which come from these grow upward to the second wire. When they are four to six inches above this they are pinched off just above the wire and any which have not already fastened themselves are tied to prevent the wind breaking them off. At the same time if any of the axial buds on the shoots — buds which form at the base of a leaf petiole and which usually remain dormant until the following year but which sometimes start into growth on the younger shoots — have begun to form secondary shoots, they are rubbed off, beginning with the node next above the upper cluster and going down to the old cane. This gives the clusters more room and better light. Soon after the first heading-back, the upper buds of the young shoot start lateral growth. These secondary branches usually grow upright and when they are several inches high they are topped off with a sickle. This heading-back results in stockier and more mature canes for the following year and if properly done adds to the fruitfulness of the vine and matures the fruit better.

For winter protection, as soon as there is danger of the ground freezing, the vines are pruned, cut from the wire and bent to the ground. Some care has to be exercised in this that the trunk is not broken. While one man holds the vine down two others throw on dirt from each side till it is covered to a depth of five or six inches. During the winter this dirt will settle down considerably and sometimes part of the trunk will be uncovered but no injury has been noted in such cases. This work can be done so rapidly that it adds but a few cents to the cost of growing the vines.

The *Vinifera* grape should make a most welcome addition to the home-gardens in New York. The rich, clear flavor, the high quality and the size and appearance of many of the kinds of this species adapt them splendidly to the home-plantations where quality should be the chief consideration. For the amateur, the lover of good fruit, these can be recommended unhesitatingly. On the other hand, it would not be wise to attempt growing them on a large scale commercially until we have had more experience with them and wider knowledge of the requirements of this species, though the commercial grower who is supplying a high-class local market where good quality counts could well afford to begin testing some of the best varieties to find which are suited to his conditions and to the demands of his market.

The value of the wine varieties in the State is problematic. It will take several years to test out these varieties to find which are best adapted to the conditions in the wine region of the State and, after the proper kinds are found, it will be several years longer before

sufficient vines could be brought into bearing to have any effect upon the wine industry. It is a question whether the demand for such grapes would be great enough to justify the expenditure of the time and money necessary to develop them. There are, however, some very good wine sorts which, at the same time, make desirable table grapes and it would be well worth while to begin to test the best of these in the Keuka region.

For nearly a hundred years breeders of grapes have been blending this foreign species with our native kinds and, as a result, of all the grapes which we mark as high in quality, practically every one has some *Vinifera* blood in it. Altho this hybridization has been going on for nearly a century the work has been desultory and not much more than a dozen European varieties have been used as parents and these chiefly the late-season, greenhouse sorts. There is no other field of fruit-breeding which offers greater promise than the continuation of this work and it is no idle speculation to say that viniculture in New York will be greatly enriched by the *Vinifera* hybrids which will be introduced in the next fifty years. This Station is already growing several hundred such hybrids.

Since the *Vinifera* grape varieties have originated in localities with longer, warmer seasons than those at Geneva, only a small proportion of these varieties can be expected regularly to ripen here; but many other sorts will undoubtedly do so in sections of the State where the later native varieties succeed. A few varieties that promise success on almost any good grape soil are Bakator, Golden Chasselas, Chasselas Rose, Lignan Blanc and, for wine and table, Blue Portuguese.

Many other varieties are described in the regular edition of this bulletin, and classified with reference to their general adaptability, suitability for testing in favorable grape sections or lack of promise for New York. In each of the first two groups, varieties suitable for the table and for wine making are listed separately.

